



FormsMaster 8000 Series

High Performance Serial Matrix Printers

Operator's Manual

©Printek, Inc. 1997
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Part Number 4339

This equipment has been tested and found to comply with the limits for a Class A Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference in which case the user will be required to correct the interference at his own expense.

The user is cautioned that any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emissions as set out by the ICES-003 standard, of the Canadian Department of Communications.

Cet appareil numérique n'émet pas de bruits radioélectriques dépassant les limites de Classe A prescrites dans la norme NMB-003 Édictée par le Ministre des Communications du Canada.

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Table of Contents

Introduction	
Models and Options	1
Manual Contents	1
Getting Started	
Installation	3
Interface Set Up	4
Installing The Ribbon Cartridge	8
Why Use Only Printek® Brand Ribbons	8
Ribbon Installation	10
Loading Paper	13
FormsMaster 8000 Single Tractor Model	13
FormsMaster 8003 TriTrak™ Model	14
Printer Self-test	17
Daily Operation	
Introduction	19
Control Panel Features	20
LCD Display and Online Indicator	20
Push Buttons	21
Selecting and Loading Forms	25
Selecting a Form Already Loaded in the Tractors	25
Loading a New or Different Form In the Tractors	25
Ejecting and Tearing Off a Form	30
Installing a New Ribbon Cartridge	32
Aligning Print	34
Common Error Conditions	36
Check Paper	36
No Paper to Load	36
Too Much Paper to Unload	37
Selected Form is not Loaded	37
No Ribbon or Wrong Ribbon	37
Ribbon Lid Open	37
Paper Door Open	37
Change Ribbon	38

Printer Configuration	
Introduction To Setup	39
Setup Buttons	39
Entering Setup	40
Using the MENU Button	40
Using the SUBMENU Button	40
Using the ITEM and VALUE Buttons	41
Exiting Setup	41
Forms Menu	42
Forms Menu Items	43
Interface Menu	49
Automatic Port Switching	49
RS-232C Serial Interface Items	51
Parallel Interface Items	55
Ethernet 10BaseT LAN Interface Items	57
Coaxial/Twinaxial Interface Items – Coax Configuration	59
Coaxial/Twinaxial Interface Items – Twinax Configuration	63
IPDS Coax Interface Items	67
IPDS Twinax Interface Items	72
Imager and ImagerPlus Interface Items	74
Options Menu	79
Test Menu	82
Form Construction and Layout Tips	
Form Construction	85
Form Layout Considerations	85
Maintenance and Troubleshooting	
Messages	87
Preventive Maintenance	88
Obtaining Service	88
Advanced Setup Features	89
Using Remote Setup	91
Using the Optional Setup Module	99
Printer Reset Conditions	105
Control Code and Escape Sequence Summaries	

ANSI X3.64 Emulation	107
Epson FX Emulation	109
IBM Proprinter Emulation	111
LA-120 Emulation	113
Simple TTY Emulation	115
Printek Emulation	116
ASCII Character Tables	117
Specifications	121
Glossary of Terms	127

Introduction

Thank you for purchasing a Printek FormsMaster 8000 Series Printer. This printer has been designed to provide years of service handling your most demanding printing requirements.

The FormsMaster 8000 Series printers offer higher throughput than all other printers in its class. In addition, an easy to use front panel combined with the ability to store ten different form configurations makes handling multiple forms as simple as a button press for the operator.

Models and Options

The FormsMaster 8000 and the FormsMaster 8003 differ only in the number of tractor paths available, one path or three.

Options available for both models include:

- Coaxial and Twinaxial Interface
- Coaxial IPDS Interface
- Twinaxial IPDS Interface
- Ethernet 10BaseT Interface
- Imager Bar Code Coprocessor
- ImagerPlus Bar Code Coprocessor
- Print Stand (required for reduced sound levels)
- Internal FormsCutter
- Setup Module

Manual Contents

- **Getting Started** provides instructions for installation, setting up the computer interface, installing the ribbon cartridge, loading paper, and performing a printer self-test.
- **Daily Operation** provides more detailed descriptions of the features that are used most frequently. These include the “every day” buttons and indicators on the control panel, selecting or loading new forms, ejecting forms, changing the ribbon cartridge, aligning

print with preprinted forms, and causes for common error conditions.

- ***Printer Configuration*** provides detailed information on how to use Setup to permanently store parameters for each of the ten forms, parameters for the standard and optional interfaces, and parameters for other options.
- ***Specifying Forms*** provides tips for form construction and layout.
- ***Maintenance and Troubleshooting*** lists more serious error messages than discussed in the *Daily Operation* section, preventive maintenance, and how to obtain service.
- ***Advanced Setup Features*** provides information on how to set menu security.
- ***Using Remote Setup*** describes how to “set up” default parameters from a host computer.
- ***Using the Setup Module*** describes how the optional Setup Module can be used to copy Setup parameters from one printer to another.
- ***Printer Reset Conditions*** describes the state of the printer after power up or reset.
- ***Control Code and Escape Sequence Summaries*** lists the commands supported for each printer emulation.
- ***ASCII Character Tables*** show the characters for each character set.
- ***Specifications*** lists the operating ranges and ratings of the printer.
- ***Glossary of Terms*** provides definitions for terms used in this manual.

Getting Started

This chapter will use the fewest possible steps to get the first time user up and running quickly. You will be guided through the following steps:

- Finding a suitable location and installing the printer
- Setting up a host interface if necessary
- Installing the ribbon cartridge
- Loading paper
- Performing a printer self-test

INSTALLATION

Before installation, a suitable site must be chosen. Suitable sites include offices, computer rooms, and most factory environments. The Printek FormsMaster printers have been designed to be rugged, heavy duty printers. As such, they will handle most harsh environments, but should not be placed in direct sunlight or in areas that will exceed the rated temperature, humidity, or power requirements. For details, refer to “Specifications” on page 121.

Once a site has been selected, the printer should be placed on a Printek Print Stand. The Printek print stand is especially recommended for the FormsMaster 8003 and is required to meet the low noise rating of the printer. Of course, another sturdy print stand or table with a slotted top for feeding paper into the bottom of printer may be used.

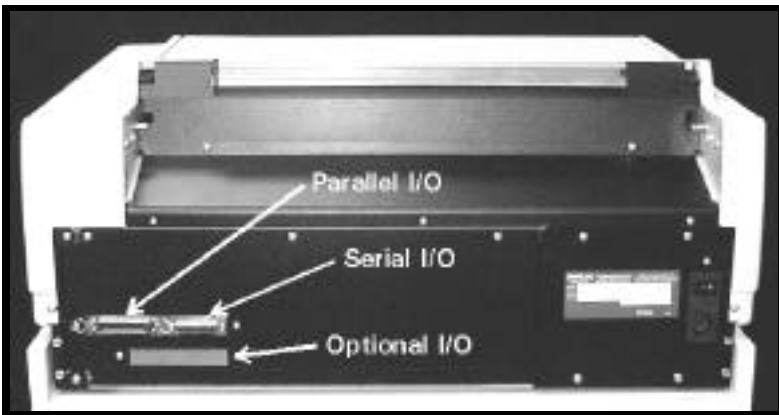
The print stand should be located in an area large enough to provide easy access to both the front of the printer and the rear for accessing printed output. Unpack the printer as described in the “FormsMaster 8000 Unpacking Instructions” and place the printer on the print stand.

Note: Placing the printer on the print stand is best accomplished with two people. Proper lifting technique should be observed.

Caution Before connecting or turning on power, make sure that all shipping materials have been removed. These materials include

a cable tie that secures the print head carriage (open ribbon lid to access) and two cardboard tubes placed over the tractor shuttle shafts in the FormsMaster 8003 (open paper door on front of unit to access).

Next, connect the power cord supplied with the printer to the printer and an appropriate power outlet. Now connect the computer cable(s) to the appropriate interface. The picture below shows the location of the standard Parallel and RS-232C interface connectors on the rear panel of the printer. The area where an optional CX/TX, ICX, ITX, or LAN interface may be installed is also indicated.



Interface Connectors on Rear of Printer

INTERFACE SET UP

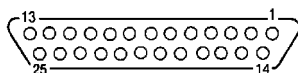
Depending upon which interface is being used to connect the printer to the host computer, some set up may or may not be required. Regardless of which interface is used, the FormsMaster 8000 will automatically detect which port is receiving data and make that port active. This is true of the standard parallel or serial ports and any optional interface that may be installed. For more information, see “Automatic Port Switching” on page 49.

The factory default settings for each interface should work well for most installations. However, the following paragraphs provide some basic information about each interface and also refer to the page number in the Configuration chapter where all the details for each interface are described. If you need to make changes to the default settings, please refer to “Introduction to Setup” on page 39 for instructions on how to access the printer’s Setup menus.

Once you are comfortable that the interface settings match those required by your computer, proceed to the next section, “Installing the Ribbon Cartridge” on page 8.

RS-232C Serial Interface

This interface uses a 25 pin “D” connector as described below. The default settings are 9600 baud, 8 data bits, 1 stop bit, and no parity with hardware handshake on pin 11. The default printer emulation is Epson. For a complete description of all the default settings for this interface, refer to page 51.

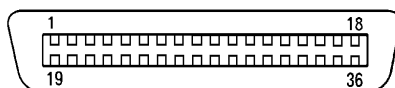


<u>Pin</u>	<u>Signal</u>
1	Chassis ground.
2	Transmit data. (Printer output).
3	Receive data. (Printer input).
4	Request to send (set). (Printer output).
5	Clear to send (ignored). (Printer input).
6	Data set ready (ignored). (Printer
7	input).
8	Signal ground.
11	Carrier detect (ignored). (Printer input).
20	Printer busy. (Printer output).
	Data terminal ready. (Printer output).

RS-232C Serial Interface Connector.

Parallel Interface

This interface uses the standard 36 pin parallel connector as shown below. The default printer emulation is Epson. For a complete description of all the default settings for this interface, refer to page 55.



Pin Signal

1	DATA STROBE
19	DATA STROBE RTN
2	DATA 1
20	DATA 1 RETURN
3	DATA 2
21	DATA 2 RETURN
4	DATA 3
22	DATA 3 RETURN
5	DATA 4
23	DATA 4 RETURN
6	DATA 5
24	DATA 5 RETURN
7	DATA 6
25	DATA 6 RETURN
8	DATA 7
26	DATA 7 RETURN
9	DATA 8
27	DATA 8 RETURN

Pin Signal

10	ACKNOWLEDGE
28	ACKNLG RETURN
11	BUSY
29	BUSY RETURN
12	PAPER ERROR
13	SELECT
14	AUTO FEED
16	$\pm 0V$
17	CHASSIS GROUND
18	+5V at 200mA Max.
31	$\overline{\text{INIT}}$
30	INIT RTN
32	$\overline{\text{FAULT}}$
35	+5V LOGIC HIGH
36	$\overline{\text{SELECT IN}}$

Parallel Interface Connector

Ethernet 10BaseT

This interface uses a standard RJ-45 connector and the default printer emulation is Epson. For a complete description of all the default settings for this interface, refer to page 57. For additional software installation and operational information, please refer to the Axis manuals shipped with the unit (disregard the Axis physical installation information).

Coax/Twinax Interface

This interface automatically sets itself for either Coax Mode or Twinax Mode depending upon which adapter cable (coax BNC or twinax smart “T”) is attached to the 15 pin “D” connector when the printer is powered on. Only the choices for the detected mode are available in the Setup menus.

For Coax Mode, the default emulation is for a 3287 printer. For a complete description of all the default settings for the Coax interface, refer to page 59.

For Twinax Mode, the default emulation is for a 4214 printer. For a complete description of all the default settings for the Twinax interface, refer to page 63.

IPDS Coax Interface

This interface uses a coax BNC adapter connected to the 15 pin “D” connector on the rear of the printer. The default values should work in most cases. For a complete description of all the default settings for this interface, refer to page 67.

IPDS Twinax Interface

This interface uses a twinax smart “T” adapter connected to the 15 pin “D” connector on the rear of the printer. The default values should work in most cases. For a complete description of all the default settings for this interface, refer to page 72.

INSTALLING THE RIBBON CARTRIDGE

The Printek FormsMaster printer has been designed to make installing Printek brand ribbons a simple, clean process. Unlike other printers, there is no need to touch the ribbon fabric or deal with difficult to position ribbon guides. The following sections explain why the use of Printek brand ribbons should be important to you and will guide you through installing the ribbon cartridge.

Why Use Only Printek® Brand Ribbons



Printek® Brand Ribbon Label

Printek brand ribbons can be identified by the above label on each ribbon. There are many reasons to use only Printek brand ribbons in your FormsMaster 8000 series printer. First of all, **using only Printek brand ribbons will automatically extend the print head warranty to two years** instead of one year.

The reason this is possible is that Printek brand ribbons are manufactured to much higher quality standards than those offered by other manufacturers. This provides not only longer print head life, but also longer ribbon life... **23 million characters** as compared to only 15 million characters from some generic ribbons.

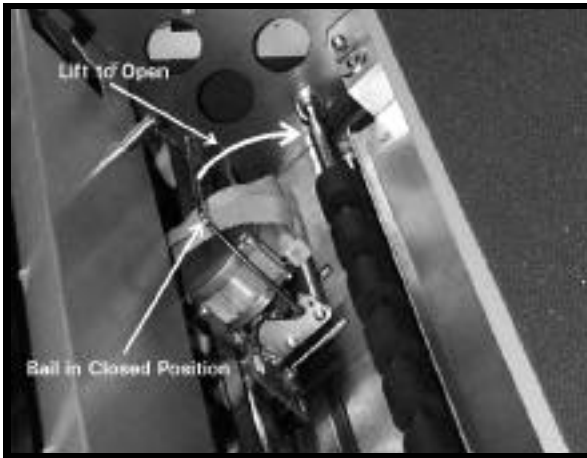
Remember that using *only* Printek brand ribbons is important because the wear that is started and the contamination that remains from even one inferior ribbon will continue to damage the print head. Also, damage to other printer components which is caused by the use of non-Printek ribbons will not be covered by the printer's warranty.

Using inferior ribbons would be like using poor quality fuel in your automobile. Premature engine failure and poor performance leading up to the failure would be the best you could expect.

Other useful features available only with the use of Printek brand ribbons are that the printer will not allow printing if a ribbon is not installed, and the printer will alert the operator when a ribbon needs to be changed.

Ribbon Installation

1. Open the ribbon lid on top of the printer and position the print head for ribbon loading by lifting the ribbon loading handle as indicated in the following picture.



Opening the Ribbon Loading Handle

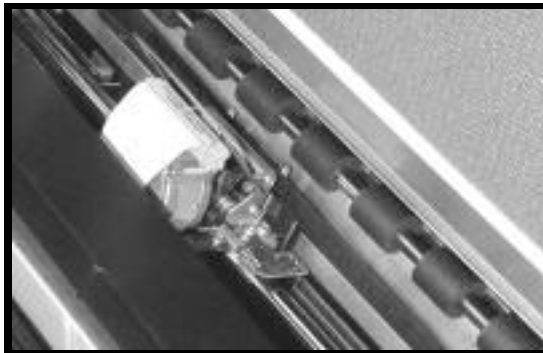
2. Remove the new ribbon from its plastic bag and make sure the ribbon fabric is taut by turning the knob on top of the ribbon cartridge in a counterclockwise direction as indicated by the arrow on the cartridge.

3. With the right hand end of the ribbon tilted down, insert the tab on the end of the cartridge into the opening in the ribbon tray.



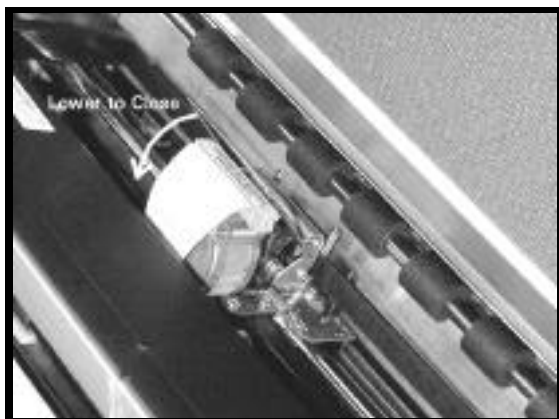
Installing the Ribbon Cartridge

4. Now lower the left end of the cartridge down while guiding the ribbon fabric between the nose of the print head and the ribbon guide pins. Continue to lower the cartridge until the tab on the left end of the cartridge snaps into place.



Ribbon Guided Between the Print Head and Guide Pins

5. Finally, lower the ribbon loading handle to its original position.



Closing the Ribbon Load Handle

6. Close the ribbon lid on top of the printer.

LOADING PAPER

When shipped from the factory, the basic configuration for all ten forms is an eleven inch form, six lines per inch, and ten characters per inch. If the forms you are loading do not match these requirements, please refer to the “Printer Configuration” chapter on page 39 and review the “Using Setup” and “Forms Menu” sections.

Please refer to the appropriate section below for loading paper in the FormsMaster 8000 or FormsMaster 8003.

FormsMaster 8000 Single Tractor Model

1. Make sure the printer is powered on and that the printer is off line (ONLINE indicator flashing red).
2. Lift open the paper door on the front of the printer to expose the paper feed tractors as shown below.



FormsMaster 8000 Tractors

3. Open the doors on each tractor.
4. Feed the paper up through the bottom of the printer and position the holes in the edge of the paper over the pins in the left tractor while making sure that the paper will not extend above the top of the tractors. Then close the tractor door.

Note: The left tractor position is not adjustable. If it is necessary to adjust where printing begins, refer to “Aligning Print” in the “Daily Operation” section of this manual.

5. Now position the paper in the right tractor in the same fashion. If necessary, the position of the right tractor may be adjusted. To do so, move the lever on the side of the tractor down to unlock the tractor and slide the tractor sideways on the shafts. If necessary, the paper guides between the tractors may be slid in either direction to accommodate the form width. Make sure that the guides are spaced evenly between the tractors.

After the paper is placed in the tractor and the door is closed, position the tractor far enough to the right so that there is no buckle in the paper between the tractors, but not so tight that the holes in the paper are distorted. Lock the tractor in place by returning the lever to the up position.

6. Close the paper door.
7. Press the LOAD button.
8. Place the printer on line by pressing the ONLINE button.

FormsMaster 8003 TriTrak™ Model

The following instructions will guide you through loading all three tractor paths.

1. Make sure the printer is powered on and that the printer is off line (ONLINE indicator flashing red).
2. Press the UNLOAD button to move the tractor shuttle forward to the load position.
3. Lift open the paper door on the front of the printer to expose the paper feed tractors as shown in the following picture.



FormsMaster 8003 Tractors

Loading the Front Tractors

4. Open the doors on each tractor.
5. Feed the paper up through the bottom of the printer and position the holes in the edge of the paper over the pins in the left tractor while making sure that the paper will not extend above the top of the tractors. Then close the tractor door.

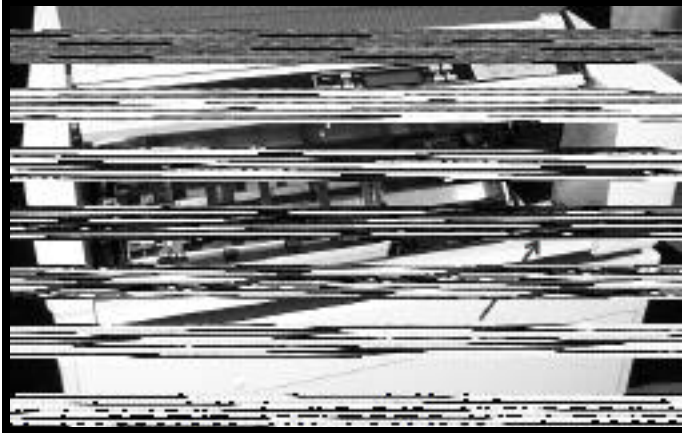
Note: The left tractor position is not adjustable. If it is necessary to adjust where printing begins, refer to “Aligning Print” in the “Daily Operation” section of this manual.

6. Now position the paper in the right tractor in the same fashion. If necessary, the position of the right tractor may be adjusted. To do so, move the lever on the side of the tractor down to unlock the tractor and slide the tractor sideways on the shafts. If necessary, the paper guides between the tractors may be slid in either direction to accommodate the form width. Make sure that the guides are spaced evenly between the tractors.

After the paper is placed in the tractor and the tractor door is closed, position the tractor far enough to the right so that there is no buckle in the paper between the tractors, but not so tight that the holes in the paper are distorted. Lock the tractor in place by returning the lever to the up position.

Loading the Center Tractors

7. Tilt the front tractors forward by pulling the green lever on the right hand side of the front tractor assembly forward.
8. Repeat steps 4 through 6 above.



Front Tractors Tilted Forward for Access to Center Tractors

Loading the Rear Tractors

9. Tilt the center tractors forward by pulling the green lever on the center tractor assembly forward.
10. Repeat steps 4 through 6 above.

Selecting Which Form to Print

11. Close the paper door.
12. Press the FORM SELECT button until the desired form is displayed and then press the LOAD button. The printer will now move the selected form into position for printing.
13. Place the printer on line by pressing the ONLINE button.

PRINTER SELF-TEST

The printer performs many self diagnostics each time power is turned on. If you wish to perform an actual printing test, use the following steps.

1. Make sure the printer is powered on with ribbon and paper loaded.
2. Take the printer off line (the ONLINE indicator will be flashing red).
3. Press the SETUP/MENU button four times to display TEST MENU on the front panel.
4. Press either of the ITEM buttons until Test Mode is displayed on the top line.
5. Press either of the VALUE buttons until Barber Pole is displayed on the bottom line.
6. Press the ONLINE button.
7. The printer will now exit Setup and begin printing a rotating character pattern. To stop or restart printing the test pattern, press the ONLINE button.
8. To take the printer out of the test mode, stop the test by pressing the ONLINE button.
9. Press the SETUP/MENU button four times to display TEST MENU.
10. Press either of the ITEM buttons until Test Mode is displayed on the top line.
11. Press either of the VALUE buttons until Off is displayed on the bottom line.
12. Press the ONLINE button.

Daily Operation

INTRODUCTION

This chapter describes how to use the “everyday” features of the FormsMaster 8000. The items covered are:

Control Panel Features – describes the most commonly used features of the printer’s control panel.

Selecting and Loading Forms – describes how to insert paper or forms into the tractors and how to inform the printer of which forms are “loaded”.

Ejecting and Tearing Off a Form – describes how to remove printed documents from the printer.

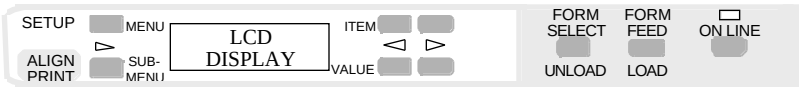
Installing a New Ribbon Cartridge – describes first time installation of the ribbon cartridge.

Aligning Print – describes how to precisely align where data is printed on a form.

Common Error Conditions – describes errors that may occur during normal printing operations.

CONTROL PANEL FEATURES

The following picture shows the printer’s control panel. The control panel consists of a two line LCD display, an ONLINE status indicator, nine push button switches or “buttons”, and a speaker. Each of these items is described below



Control Panel

LCD Display and Online Indicator

LCD Display This two line by sixteen character display is used to convey several types of information. When the printer is on line and printing, or ready to print, the display will show the currently selected tractor path and the form currently loaded in that path. When the printer is off line, the display will continue to show this information, additional information based upon other buttons being pressed by the operator, or error conditions such as “Check Paper”.

ONLINE Status Indicator This is a multicolored LED which is used to display the following information:

Green: The printer is on line and ready to print.

Flashing Green: The printer is in the process of going back on line. Typically occurs after a new form has been loaded while the printer is confirming which forms are loaded in the tractors.

Flashing Red:	The printer is currently off line and cannot print. This may be due to the operator taking the printer off line or the printer may have detected an error condition, such as running out of paper, which requires operator intervention. If due to an error condition, the cause of the error will periodically be shown on the LCD display. After the cause of an error condition has been resolved, press the ONLINE button to clear the error. This will also place the printer back on line and allow printing to resume.
Yellow:	The printer is in the process of exiting the Setup mode and saving Setup values, or the printer is currently busy performing an operation with the optional Setup Module.
Flashing Yellow:	The user has pressed the SETUP button and entered the Setup mode (may be exited by pressing the ONLINE button after the desired changes have been made). For more information, see the chapter on “Printer Configuration”.
Speaker	This device produces various tones to alert the operator when different error conditions occur. It may also be used to produce a tone when a bell character (ASCII BEL) is received from a host computer.

Push Buttons

ONLINE	This button toggles the printer between the on line and off line state. When the printer is on line, it may be printing or may begin printing at any time. To stop the printing or prevent printing from starting, use this button to take the printer off line (see “ONLINE Status Indicator” above). The printer must be off line
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in order to use the other control panel buttons.

This button is also used to place the printer back on line following any error condition (ONLINE indicator is flashing Red), such as paper out. When pressed to go on line, the printer will first attempt to clear any errors. For example, if there is a paper out condition, the printer will attempt to load the form in the currently selected tractors and, if successful, go on line.

FORM FEED /LOAD

This button performs a number of different form feeding functions. The printer will automatically select the correct function to perform based upon the current position of the form.

LOAD:

- Loads the form that has been selected with the FORM SELECT button.

If a the selected form is already recognized as “loaded” in the tractors, the printer will position the tractors if necessary (FormsMaster 8003) and advance the form to the print position.

If the selected form is not currently considered to be loaded in the tractors (display shows <Not Loaded>), this button will change the status of this form to “loaded” and the bottom line of the display will show the path(s).

FORM FEED:

- If a form is currently loaded and perhaps partially printed, this button will advance the bottom of the current form to the tear bar so that it may be torn off.
- If a form has already been advanced to the tear bar, this button will advance the next

form to the tear bar.

FORM SELECT /UNLOAD

This button is used to access up to ten different forms which have been previously configured with the Setup menus (see the chapter on Printer Configuration for more information).

When this button is pressed, one of two functions will be performed.

UNLOAD:

- If a form is currently in position to be printed, this button will pull the form down until the top of the form is below the top of the tractors. In the FormsMaster 8003 this will also cause the tractor shuttle to move forward for easy access to all tractors.

FORM SELECT:

- If the form has already been pulled down to the tractors as described above, this button will cycle through all the available form choices. Forms which are not considered to be “loaded” in the tractors will flash <not loaded> on the bottom line of the display. In the FormsMaster 8003 the not loaded message will alternate with the tractor path assigned to that form. For more information, see the following section on “Selecting and Loading Forms”.

ALIGN PRINT

This button will access the horizontal and vertical print adjustment settings for the currently selected form.

When ALIGN PRINT is pressed, the horizontal adjustment is shown first. Pressing the VALUE buttons will move the print position on the line left or right by 0.01 inches for each press

of a button as indicated on the display. The arrows to the side of the number will indicate the direction the print will be moved.

To access the vertical adjustment, press either ITEM button. Pressing the VALUE buttons will now move the print up or down on the page by 0.01 inches for each press of a button as indicated on the display. The arrow to the right of the number will indicate the direction the print will be moved.

For a more detailed description, see “Aligning Print” later in this chapter.

SETUP

This button is used to set up the various operating parameters of the printer for forms, interfaces, etc. This button is not used on a daily basis. For more information see the chapter on “Printer Configuration”.

SELECTING AND LOADING FORMS

Note: A form is not considered “loaded” by merely placing the form in the tractors. To prevent printing on the wrong form, the printer must be made aware of what form(s) are currently loaded. When a new form is placed in the tractors, the form must be “loaded” using the control panel as described in the next section, “Loading a Different Form in the Tractors”.

Selecting a Form Already Loaded in the Tractors

To select a form that is already loaded in the tractors, take the printer off line and press the FORM SELECT button until that form is displayed (a form that is not considered to be loaded will flash <Not Loaded> on the bottom line of the display). The form selection will be displayed as FORM 0 through FORM 9 or as the actual name of the form if that has been set up.

To position the form for printing, you may press the FORM FEED button which will position the form, or you may press the ONLINE button which will both position the form and place the printer on line.

Loading a New or Different Form In the Tractors

This section describes how to “load” a form in the tractors. This involves physically placing the paper or form in the tractor mechanism and then informing the printer that the new form is present.

Select the Form to be Loaded

1. Take the printer off line by pressing the ONLINE button. The ONLINE indicator should now be flashing red.
2. Press the FORM SELECT/UNLOAD button. This will move the current form from the print position down to the tractors for removal. In the case of the FormsMaster 8003 this will also move the shuttle forward for easy access to all tractor paths.

3. Continue to press the FORM SELECT button until the desired form name is shown on the top line of the display. The form name will be FORM 0 through FORM 9 or the actual name of the form if the name has been set in Setup. If the desired form is not considered to be “loaded” by the printer, <Not Loaded> will flash on the bottom line of the display. In the case of the FormsMaster 8003 the not loaded message will alternate with the path(s) that this form is to be loaded in.

Loading the Form in the Tractors

4. Open the paper door on the front of the printer. This will provide access to the tractors as shown below. If your printer is a FormsMaster 8000, only one set of tractors will be available and you may skip ahead to step 6.



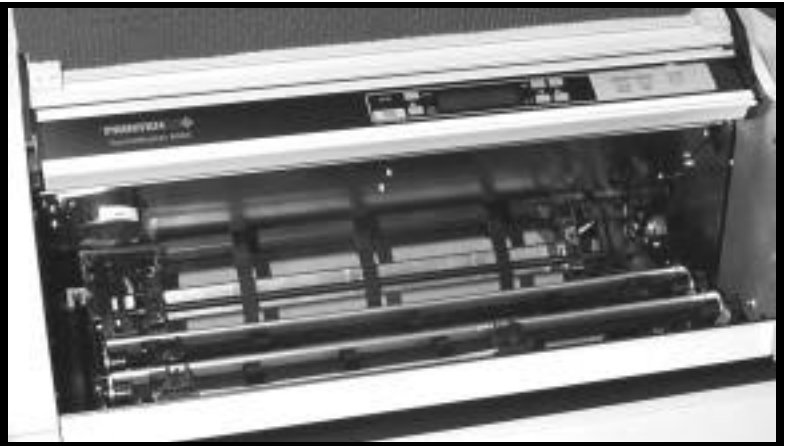
FormsMaster 8003 tractors

5. Depending upon which path(s) the new form is to be placed in, you may need to tilt the front and/or center tractors forward as shown.



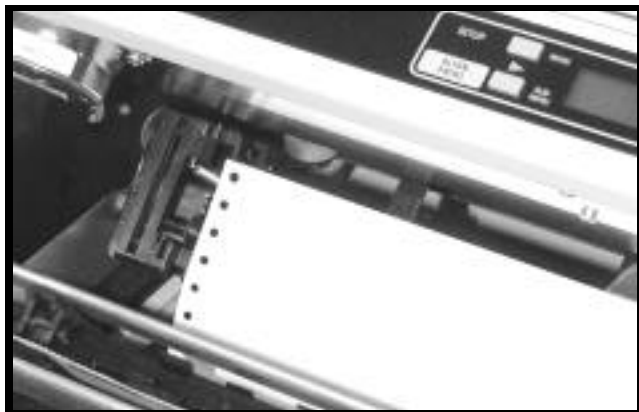
FormsMaster 8003 with front and center tractors tilted forward.

6. Open the tractor doors and remove the old form.



FormsMaster 8003 with rear path empty

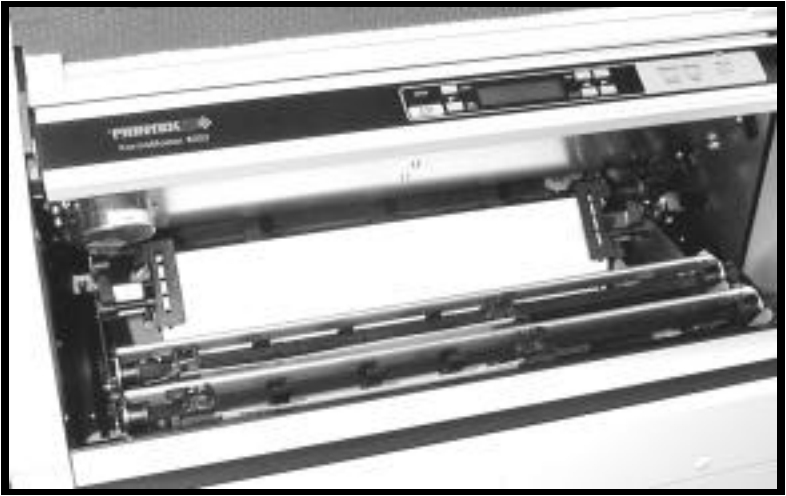
7. If the new form is a different width than the previous form, unlock the right tractor and move it to approximately the new position. Note that the left tractor position is fixed and may not be moved.
8. Place the left edge of the new form in the left tractor with the holes aligned with tractor pins. Make sure that the top edge of the form does not extend above the top of the tractors.



Paper positioned in left tractor.

9. Close the left tractor door.
10. Now position the paper in the right tractor in the same fashion. If necessary, the position of the right tractor may be adjusted. To do so, move the lever on the side of the tractor down to unlock the tractor and slide the tractor sideways on the shafts. If necessary, the paper guides between the tractors may be slid in either direction to accommodate the form width. Make sure that the guides are spaced evenly between the tractors.

After the paper is placed in the tractor and the door is closed, position the tractor far enough to the right so that there is no buckle in the paper between the tractors, but not so tight that the holes in the paper are distorted. Lock the tractor in place by returning the lever to the up position.



New form loaded in tractors

Informing the Printer That the New Form is Loaded

11. Press the LOAD button. The display will now show that the new form has been “loaded”.
12. If your printer is a FormsMaster 8003 you may repeat the above steps to load additional forms at this time.
13. Close the paper door.
14. Make sure the correct form to be positioned for printing is selected and press either the LOAD button or the ONLINE button. The LOAD button will position the form for printing but will not place the printer on line. The ONLINE button will both position the form and place the printer on line. Note that the first time the printer is placed on line after a new form is loaded, the form(s) currently known to be loaded by the printer will scroll across the display as the printer goes on line. The operator should observe the forms displayed to confirm that the correct forms are recognized as loaded.

EJECTING AND TEARING OFF A FORM

When most print jobs complete, they will command the paper to be positioned at the top of the next form so that the printer is ready for the next job. This is, however, dependent solely upon how the programmer chose to write your particular application software. If your software does position the paper at the top of the next form, the printer will automatically position the form at the tear bar as shown in the following picture.



Bottom of form at tear bar

If your form is positioned as shown, you may skip the next section on positioning and proceed with “Tearing off a Form”.

Positioning the Form for Tear Off

1. If your print job has completed and the form is not positioned as shown above, take the printer off line by pressing the ONLINE button (indicator will change from green to flashing red).
2. Press the FORM FEED button. This will automatically position the form at the tear bar and you may tear off the form as described below.

Tearing off a Form

1. Make sure the printer is off line (indicator flashes red when off line) by pressing the ONLINE button if necessary. This will prevent the printer from pulling the paper down to start printing the next job while you are tearing off this one.
2. Pull the paper toward the front of the printer and toward one side of the printer as shown.



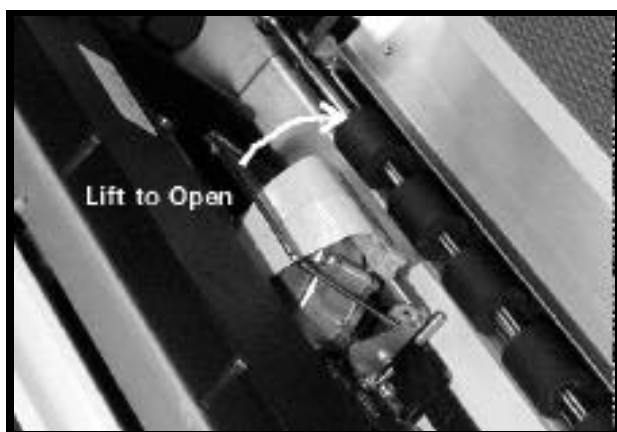
Tearing off a form

3. Place the printer back on line with the ONLINE button (indicator changes to green). The form will automatically be pulled down into position for printing the next time the printer receives data to be printed.

INSTALLING A NEW RIBBON CARTRIDGE

Removing the Old Ribbon Cartridge

1. Open the ribbon lid on top of the printer and position the print head for ribbon loading by lifting the ribbon loading handle as indicated in the following picture.



Opening the Ribbon Loading Handle

2. Grasp the left end of the ribbon cartridge and lift it up and toward the rear of the printer as shown below



Removing the Old Ribbon Cartridge

3. Lift the right end of the ribbon and remove the ribbon from the printer.

Installing the New Ribbon Cartridge.

Note: The use of Printek brand ribbons is recommended for increased ribbon life and print head life. The use of only Printek brand ribbons is required for the extended print head warranty. For details, see “Why Use Only Printek Brand Ribbons” in the “Getting Started” chapter.

4. Remove the new ribbon from its plastic bag and make sure the ribbon fabric is taut by turning the knob on top of the ribbon cartridge in a counterclockwise direction as indicated by the arrow on the cartridge.
5. Install the new ribbon by reversing the above removal process. For a more detailed installation description, see “Installing the Ribbon Cartridge” on page 8
6. Close the ribbon lid and place printer back on line.

ALIGNING PRINT

When a new form is loaded into the printer for the *first time*, it may be necessary to adjust where printing begins. This depends upon how the software that controls the printing was written. If the software was written to perform its own character and line spacing relative to the edges of the form, then adjustment may not be necessary. If the print position needs to be adjusted, the following discussion will describe how this is accomplished. Note that the alignment for the selected form is permanently stored in the printer's memory and does not have to be readjusted each time the form is loaded.

To align print on a particular form, select that form with the FORM SELECT button and then press the ALIGN PRINT button. If the form selected is named "Invoices", the display would now show the following.

**Aligning Print
On INVOICES**

After a short time, the display would change to show that you can now MOVE PRINT left or right. Be sure to remember that you are *moving where the print is placed on the page*.

**MOVE Left/Right
PRINT ← 0.00" →**

The VALUE buttons will move the print left or right in 1/100th inch increments. Note that the left and right arrows will change according to which way the print has been moved from the normal print position. The maximum distance print may be moved is 9.99 inches in either direction.

To move the print vertically on the page, press either of the ITEM buttons and the display will change to the following.

**MOVE Down/Up
PRINT 0.00" ↑**

The VALUE buttons will move the print down or up in 1/100th inch increments. Note again that the arrow will change according to the direction

the print is to be moved from the normal print position. The maximum distance print may be moved is 9.99 inches in either direction.

Example

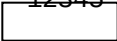
In this example, a number needs to be printed in a box on a preprinted form. This form could be a packing list, an invoice, or a check. The first time the page is printed, the number misses the box as shown below.

12345


In this case, the *print* needs to be moved to the right and down. To accomplish this, press **ALIGN PRINT** and access the **Left/Right** option. First move the print to the right using the **VALUE** buttons. It appears that the text needs to move about three characters. If the text is being printed at 10 cpi (characters per inch), this would be 0.30 inches. After making this adjustment the display would look as follows.

MOVE Left/Right
PRINT $\frac{3}{4}$ 0.30" →

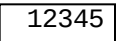
If you were to print this form now, it would appear as follows, showing that the print still needs to be moved down.

12345


To move the print down, access the **Down/Up** option by pressing either of the **ITEM** buttons. It appears that the print needs to be moved down nearly the height of the characters. These characters are approximately 0.10 inches tall, so move the print down about 0.08 inches. The display should look as follows.

MOVE Down/Up
PRINT 0.08" ↓

Now when the form is printed again, the text will be printed in the box as shown here.

12345


COMMON ERROR CONDITIONS

Whenever the printer detects an error condition, it will automatically go off line. User correctable errors are “flashed” on the display. These errors can typically be recovered from without loss of data and are listed in this section of the manual.

Other errors which typically result in loss of data are considered fatal errors. These errors display the word ERROR on the top line of the display and do not flash. These errors are listed in the “Troubleshooting” section of this manual.

Check Paper

This error is caused either by running out of paper or by a paper jam. The printer will attempt to determine the cause of a paper problem and accompany the “Check Paper” message with “Paper Out”, “Paper Jam”, or “Paper Out/Jam”.

It is not necessary to press the UNLOAD button. If your printer is a FormsMaster 8003, you may access the tractor path with the error by simply tilting any tractors in front of that path forward (see “Loading the Center Tractors” on page 16).

If the error is caused by a paper jam, remove the jammed form. If the form remaining in the tractors has tears along the top edge, remove it from the tractors, tear it off, and place the next form in the tractors.

If the error is caused by running out of paper, simply place a new box in the print stand and place the first form in the tractors.

Finally, place the printer back on line by pressing the ONLINE button. This will automatically load the new form and begin printing. Depending upon how the printer has been set up, the printer may start printing where it left off or it may start at the beginning of the page where the error occurred and reprint the entire page. See “Paper Out Fault Action” on page 80 for more information.

No Paper to Load

This error occurs when the LOAD button has been pressed and there is no paper or form in the tractors. Place paper in the tractors and press LOAD again.

Too Much Paper to Unload

This error occurs when the UNLOAD button has been pressed and there is paper present too far beyond the tear bar. This error serves as a warning that you may be putting forms that have already been printed on back into the printer. Tear off any printed forms past the tear bar and press UNLOAD again. This error also occurs if the LOAD button has been pressed and the current form cannot be unloaded.

Selected Form is not Loaded

This error occurs when ONLINE has been pressed and the currently selected form is displaying <Not Loaded>. Either press LOAD to load the selected form or select a different form and then press ONLINE.

No Ribbon or Wrong Ribbon

This error occurs when the printer is attempting to go on line and cannot detect the presence of a ribbon cartridge. This may be due to the ribbon not actually being present in the printer, or the ribbon may not be installed properly.

This error may also occur when attempting to use a non-Printek brand ribbon. Before attempting to use a ribbon brand other than Printek, please read “Why Use Only Printek® Brand Ribbons” on page 8. Then if you do decide to use non-Printek brand ribbons, refer to “Ribbon Checking” on page 81.

Ribbon Lid Open

This error occurs when ONLINE has been pressed and the ribbon lid has been left open. Close the lid and press ONLINE again.

Paper Door Open

This error occurs when ONLINE has been pressed and the paper door has been left open. Close the door and press ONLINE again.

Change Ribbon

This message is periodically displayed when a ribbon has reached the end of its useful life and indicates that a new Printek ribbon should be installed. This error is merely a reminder to change the ribbon and does not force the printer off line.

Other Errors

If other errors occur, it is possible that they may not be resolved without the aid of a factory trained service technician. Please refer to the “Maintenance and Troubleshooting” section on page 87.

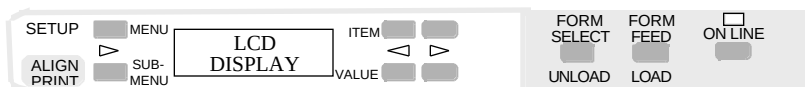
Printer Configuration

INTRODUCTION TO SETUP

The FormsMaster 8000 series printers feature simple, easy to use menus for setting the various operating parameters for the printer. The parameters available in these menus usually only need to be set one time, either when the printer is first installed or perhaps when a new form is to be used. These values are stored in nonvolatile memory, which means that they will remain set even if the printer is turned off. Following this introduction are complete, detailed descriptions of each menu item.

Setup Buttons

For your convenience, the **SETUP** button and the other buttons used while in the Setup mode are labeled in yellow on the control panel. Once in Setup, these buttons are the **MENU**, **SUBMENU**, **ITEM**, and **VALUE** buttons. The **ONLINE** indicator will flash yellow whenever the printer is in the Setup mode as a reminder to use the yellow labels. The buttons used for Setup are shown below.



Control Panel Setup Buttons

While in Setup, the placement of the text on the LCD display indicates which button or buttons to use to change what is displayed. In nearly all cases, you should use the button or buttons closest to the item you wish to change. To change what is on the top line, use the top buttons. To change what is on the bottom line, use the bottom buttons. To change what is on the left end of the line, use the left button. To use what is on the right end of the line, use the right buttons. Note also that the menu system works on

a “what you see is what you get” basis. This means that whatever value is last displayed for an item is the value that will be saved when Setup mode is exited.

Entering Setup

To enter Setup, simply take the printer off line and press the SETUP button. The ONLINE indicator will begin to flash yellow and the display will temporarily show the following.

**Entering
Setup Menus**

After the above message has been shown, the display will change to the first menu available, which is the FORMS MENU as shown below. In this case the display will also show the first submenu which will be the form that was selected when Setup was pressed.

**FORMS MENU
Form 0**

Using the MENU Button

At this time you may select a different menu by pressing the MENU button (closest to where FORMS MENU is displayed). Other menus available are the INTERFACE MENU, the OPTIONS MENU, and the TEST MENU. This button will also display an option for exiting Setup. If you do not wish to exit Setup at this time, press the button indicated for No and continue to press the MENU button to select the desired menu. The MENU button may be pressed at any time to select a different menu.

Using the SUBMENU Button

The SUBMENU button selects additional menus that are related to the selected menu. For instance, if the FORMS MENU has been selected, the SUBMENU button (closest to where the form number is displayed) will select which form (Form 0 through Form 9) is to be set up. Note that not all

menus have submenus. If no submenu is available, the bottom line will be blank and the SUBMENU button will not be used.

Using the ITEM and VALUE Buttons

Once the correct menu and submenu (if available) is selected, pressing either of the ITEM buttons will cause the various items and their current values to be displayed. Note that the items and their values are right justified and are thus controlled by the buttons to the right of the display. To scroll through the items available, use the ITEM buttons. To change the value of the displayed item, use the VALUE buttons to step through the possible choices. Remember to leave the correct value displayed before selecting a different item or menu, since “what you see is what you get” when Setup Mode is exited.

Exiting Setup

Two methods of exiting Setup are available. If you wish to exit Setup and remain off line, press the MENU button to display the following option.

← No Exit Setup ← Yes Menu?
--

Pressing the button indicated for No will allow you to make additional menu choices. Pressing the button indicated for Yes will display one of the following messages depending on whether or not changes were made, reset the printer if changes were made, and then leave the printer off line.

Exiting Menus Saving Changes
--

Exiting Menus No Changes
--

To exit Setup Mode and automatically go on line, press ONLINE. The display will now show one of the above messages, if changes were made, and automatically go on line.

FORMS MENU

Most form printing applications use several different forms such as packing lists, bills of lading, invoices, checks, and green bar paper for reports. Not all of these forms require the same printer settings for things such as font, character size, line spacing, or form length. The FormsMaster 8000 series printers store up to ten complete sets of form parameters including the name of the form. These ten sets of parameters, or “forms”, are permanently stored in the printer’s memory and are referred to as “Form 0” through “Form 9”. These forms can be accessed from a single button on the printer’s control panel or by a command sent from the host computer.

To access the FORMS MENU, enter Setup by pressing the SETUP button. After the “Entering Setup Menus” message has been displayed, the following will appear.

FORMS MENU Form 0

Note that the actual form number will be for the form that was active prior to entering Setup. To select a different form, press the SUBMENU button until the desired form is displayed. Next press either of the ITEM buttons to begin displaying the various items for that form. The items available for each form are described on the following pages. The factory default values are indicated with an asterisk (*) in this manual (the asterisk does not appear on the printer’s display).

Forms Menu Items

Form Name

Form Name
FORM 0

Possible Values: Up to 16 characters of A through Z,
Space, 0 through 9

When shipped from the factory, the Form Names will be set to “FORM 0” through “FORM 9”. This name may be changed to any combination of capital letters (A-Z), numerals (0-9), or spaces. The name may be up to 16 characters in length.

Entering a name uses the SUBMENU and VALUE buttons. The SUBMENU button will advance the cursor, a flashing block, which is used to indicate the character that is to be changed. The VALUE buttons will change the character where the cursor is currently flashing. The order of characters that may be selected is “ABCDEFGHIJKLMNOPQRSTUVWXYZ, Space, 0123456789”. Even though the name will be right justified while being entered, it will be automatically centered on the display when not in Setup Mode, so there is no need to try to center it with spaces.

Tractor Path

Tractor Path
Front

Possible Values: Front, Center, Rear
Center+Rear, Frnt+Cntr+Rear

This item is only available in the FormsMaster 8003 and is used to set the tractor path to be used for the currently selected form. Typically, most forms are only loaded in one tractor path and the value will be set to Front, Center, or Rear.

However, a form can also be set to use multiple paths. This may be desirable when printing long print jobs where a paper out condition needs to be avoided. This is often true if the job is to be run overnight or at a remote and perhaps unattended location. When a form’s tractor path is set to Center+Rear or Frnt+Cntr+Rear, the printer will automatically switch to the

next path, or paths, and continue printing until all the specified paths are empty

Automatic Cut

Automatic Cut No

Possible Values: No*, Yes

This item is only available when the optional FormsCutter is installed in the printer. When set to Yes, the printer will automatically cut each form at the perforation (based upon the Form Length setting) and eject the form into the paper basket that is installed with the FormsCutter. If set to No, the paper will exit through the lower, continuous paper path into the basket on the print stand. To manually cut a form or report at the end of the current page, the user can take the printer offline and press the UNLOAD button. See the *FormsMaster 8000 Series FormsCutter Manual* for additional information.

Cut Adjustment

Cut Adjustment 0

Possible Values: Auto, -0.2951" ... 0* ... +0.2951", Auto

This item may be used to adjust the position of the cut relative to the top-of-form for improved cut accuracy. This item is only available when the optional FormsCutter is installed. Refer to the FormsCutter manual for more information.

Lines Per Inch

Lines/Inch 6

Possible Values: 6*, 8

This item sets the line pitch to 6 or 8 Lines Per Inch (LPI).

Form Length

Form Length
66 Lines

Possible Values: 1 ... 66* ... 227 Lines

This item sets the form length in lines at the current line pitch (LPI). For example: for an eleven inch form, enter 66 if you are using six lines per inch or 88 if you are using eight lines per inch.

Top Margin

Top Margin
0 Lines

Possible Values: 0* ... 226 Lines

This item sets the top margin in lines. Setting a top margin will reduce the size of the printable area of the page by the number of lines set. Printing will not be allowed above the top margin.

Note: In most cases changing where printing begins on a form should be accomplished with ALIGN PRINT rather than with a top margin. Adding a top margin may cause some programs to print the first form correctly and then print following forms too far down the page if the program sending the data does not require the margin.

Bottom Margin

Bottom Margin
0 Lines

Possible Values: 0* ... 226 Lines

This item sets the bottom margin in lines. Setting a bottom margin will reduce the size of the printable area of the page by the number of lines set. When the bottom margin is reached, the remainder of the page will be skipped and printing will resume at the beginning of the next page (or top margin if one is set). Adding a bottom margin may cause some data to be printed on the wrong page if the program sending the data does not require the margin.

Characters Per Inch

Characters/Inch 10

Possible Values: 10*, 12, 13.3, 15, 16.74, 17.14, 20

This item sets the default character pitch in Characters Per Inch (CPI). (Note that OCR-A and OCR-B characters are only valid at 10 CPI will always print at 10 CPI regardless of this setting.)

Left Margin

Left Margin Column 0

Possible Values: Column 0* ... 268

This item sets the left margin in columns (characters) relative to the left edge of the paper. The column width is based upon the current character pitch (CPI). The left margin must be less than the right margin. The left margin may be used to cause printing to begin farther to the right on a form. In many cases using ALIGN PRINT may be preferable to using a left margin (see Aligning Print on page 34) .

Right Margin

Right Margin Column 272
--

Possible Values: Column 4 ... 272*

This item sets the right margin in columns (characters) relative to the left edge of the paper. A value of 272 is large enough to insure that characters can be printed to the right end of the paper regardless of character pitch (CPI). The right margin must be greater than the left margin. Text characters that would have printed to the right of the margin will be “wrapped around” and printed at the beginning of the next line. Graphic data that would have printed to the right of the margin will be truncated (not wrapped around). However, any data which would print before the right margin but beyond the edge of the paper (either in the sprocket holes or on the platen) will be truncated.

Font

Font Epson FX FD

Possible Values: Epson FX FD*, DF, LQ;
 PC English FD, DF, LQ;
 PC Latin 2 FD, DF, LQ;
 DEC LA120 FD, DF, LQ;
 EBCDIC FD, DF, LQ;
 OCR-A OQ;
 OCR-B OQ

This item selects the default font to be used.

Draft Speed

Draft Speed Normal

Possible Values: Normal*, Fast

This item selects whether the Draft Font (DF) or the Fast Draft (FD) font will be selected when the printer receives a “select draft font” command from the host computer. This will allow the Fast Draft font to be used with programs which would not be able to otherwise.

Impact Force

Impact Force Normal

Possible Values: Normal*, High

This item may be used to select High Impact for improved printing on multipart forms that do not otherwise print well on the back copies.

Language

Language USA

Possible Values: USA*, France, Germany, England, Denmark, Sweden,
 Italy, Spain, Japan, Finland

This item selects the character substitution table to be used for an alternate language when printing. The Epson font must be selected in order for this

feature to work properly. The character substitutions are shown in the following table.

Char Value	35	36	64	91	92	93	94	96	123	124	125	126
USA	#	\$	@	[	\	]	^	`	{	_	}	~
France	#	\$	à	°	ç	§	^	`	é	ù	è	¨
Germany	#	\$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
England	£	\$	@	[	\	]	^	`	{	_	}	~
Denmark	#	\$	@	Æ	Ø	Å	^	`	æ	ø	å	~
Sweden	#	□	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Italy	#	\$	@	°	\	é	^	ù	à	ò	è	ì
Spain	PTS	\$	@	ı	Ñ	¿	^	`	¨	ñ	}	~
Japan	#	\$	@	[	¥	]	^	`	{	_	}	~

Zero Style

Zero
Normal

Possible Values: Normal*, Slashed

This item selects whether the numeral zero is printed with or without a slash through it. (This is true for normal text characters. The optional Imager and ImagerPlus Coprocessors have a separate setup item for zero characters they generate.)

Unidirectional Printing

Unidirectional
No

Possible Values: No*, Yes

This item selects unidirectional printing instead of bidirectional printing.

This may be used to improve the straightness of vertical lines for critical applications such as printing small bar codes.

INTERFACE MENU

The Interface Menu may contain several submenus. These submenus are for setting up items pertaining to the hardware interfaces such as the serial and parallel ports as well as the optional character processing interfaces such as the Imager and ImagerPlus.

In addition to the standard parallel interface and the RS-232C serial interface which are furnished with the printer, one more hardware interface such as Coax/Twinax, IPDS Coax, IPDS Twinax, or 10BaseT LAN may also be installed, as well as an Imager or ImagerPlus graphic option. The Setup items for each interface are described in one of the following sections.

The printer will automatically receive data from any of the hardware interfaces, or ports, as described below in “Automatic Port Switching”.

- RS-232C Serial Interface on page 51
- Parallel Interface on page 55
- Etherlink 10BaseT Interface on page 57
- Coax Interface on page 59
- Twinax Interface on page 63
- IPDS Coax Interface on page 67
- IPDS Twinax Interface on page 72
- Imager and ImagerPlus Interface on page 74

Automatic Port Switching

The FormsMaster 8000 series printers will automatically accept data from the Parallel Interface, the RS-232 Serial Interface, *and* any optionally installed hardware interface. This feature is always active and does not require user intervention to change ports.

In most installations, the printer is only connected to one computer and this feature may be ignored. If this is true of your installation, you may skip this section and proceed with one of the following sections which applies to the interface port you will be using.

In other installations the printer may be attached to two or three computers. This section describes how the printer will automatically switch control of the printer from one hardware interface port to another.

Note that since any one of these ports can become active at any time, items which pertain to each port need to be set up as described in the following sections. Ports that will not be used (not installed or not connected to a computer) do not need to be set up.

When the first data are received at any port after turning on power to the printer, that port becomes the “active” port. While one of the ports is active, each of the other ports will accept only a limited number of characters before reflecting a “busy” condition to the computer attached to those ports.

To change which port is active, the printer’s buffer must be empty for at least 15 seconds *and* data must be received from a different port. Therefore, if data are never received from more than one port, that port is always the active port.

When which port is active changes, the printer will automatically perform a Carriage Return (CR) and reselect the emulation that was in effect for that port. The printer will also perform a Form Feed (FF) if not already at the top of form.

Entering the Interface Menu

To Enter the Interface Menu, enter Setup and press the MENU button until INTERFACE MENU is displayed on the top line as shown below.

INTERFACE MENU Serial

The SUBMENU options for the INTERFACE MENU always include the Serial and Parallel ports. The other ports mentioned earlier will only be displayed if they are installed in the printer. This is also true of the Imager or ImagerPlus graphics options. To select the desired interface, press the SUBMENU button until that interface is displayed on the bottom line. Next press either of the ITEM buttons to begin displaying the items associated with that interface. Each interface and the items which pertain to that interface are listed on the following pages. Note that many items are the

same for more than one interface since the computer attached to that interface may have different requirements for each of those items.

The factory default values are indicated with an asterisk (*) in this manual (the asterisk does not appear on the printer's display).

RS-232C Serial Interface Items

INTERFACE MENU Serial
--

Emulation

Emulation Epson

Possible Values: Epson*, IBM Proprinter,
DEC LA120, TTY,
Printek, ANSI X3.64

This item selects the emulation to be used whenever the serial port is active (see "Automatic Port Switching" earlier in this section). Emulation should be set to match the type of printer your software supports.

Automatic Carriage Return

Auto CR On

Possible Values: Off, On*

This item enables or disables automatic Carriage Returns (CR) whenever a Line Feed (LF), Vertical Tab (VT), or Form Feed (FF) is received.

Automatic Line Feed

Auto LF

Off

Possible Values: Off*, On

This item enables or disables automatic Line Feeds (LF) when a Carriage Return (CR) is received.

Perform Host Form Feed at Top-of-Form

Host FF at TOF
No

Possible Values: No*, Yes

This item selects whether Form Feeds (FF) will be performed when received from the host computer if the paper is already positioned at the top of form (TOF). Setting this item to No will help prevent blank pages.

Characters

Characters
Control

Possible Values: Control*, Printable

This item selects whether certain control character symbols will be printed or be treated as control characters. The effect of this is dependent upon the Emulation selected.

Minimum Buffer

Minimum Buffer
No

Possible Values: No*, Yes

This item selects whether the smallest possible I/O buffer should be used. Setting this item to No will allow the printer to make maximum use of the I/O buffer (see "Paper Out Fault" on page 80 for more information on buffer size). Setting this to Yes may decrease performance, but is useful when using the printer with operating systems that try to keep track of which page is currently being printed by the printer. This may also be useful when using serial I/O with systems that do not respond quickly enough to handshake signals.

Baud Rate

Baud Rate 9600

Possible Values: 110, 150, 300, 600, 1200, 2400, 4800, 9600*, 19200

This item selects the baud rate for the serial interface. This must be set to match the baud rate setting on the host computer.

Data Bits

Data Bits 8

Possible Values: 8*, 7

This item selects the number of data bits in the serial character frame. This must be set to match the character size setting on the host computer.

Stop Bits

Stop Bits 1

Possible Values: 1*, 2

This item sets the number of stop bits to be used at the end of the serial character frame. This must be set to match the stop bit setting on the host computer.

Parity

Parity None

Possible Values: None*, Even, Odd

This item Selects the parity checking requirements for the serial data bits. This must be set to match the parity setting on the host computer.

Busy Signal Polarity

Busy Polarity

Low

Possible Values: Low*, High

This item selects the polarity of the busy signal (pin 11 of the RS-232C interface). Busy is set whenever the printer is offline, the serial input buffer is full, or another interface port is currently active (see “Automatic Port Switching” earlier in this section).

Data Terminal Ready

**DTR
Power On/Off**

Possible Values: Power On/Off*
Online/Offline
Busy/Not Busy

Selects the condition to be reflected by the DTR signal (pin 20 of the RS-232C interface). In most cases, especially those involving a MODEM, this signal should be set to indicate Power On/Off. Selecting Online/Offline will reflect only the condition indicated and does not reflect a buffer full condition. Busy/Not Busy will cause DTR to indicate both the online/offline status and buffer full condition (see “Busy Polarity” above).

XON/XOFF Handshaking

**XON/XOFF
Off**

Possible Values: Off*, On

Enables or disables the transmission of the XON and XOFF characters from the printer to the host to control data flow to the printer. XOFF will be sent whenever the printer goes offline or the serial buffer is full. XON will be sent when is again ready to receive characters.

ETX/ACK Handshaking

**ETX/ACK
Off**

Possible Values: Off*, On

Enables or disables the ACK response to receipt of the ETX character. This handshake method is useful for conditions where there are long transmission line delays such as telephone lines which may be routed through satellites. An ACK character will be returned to the host computer after an ETX character is received and processed. ETX characters used for handshaking cannot be part of an escape sequence.

Parallel Interface Items

INTERFACE MENU
Parallel

Emulation

Emulation
Epson

Possible Values: Epson*, IBM Proprinter,
 DEC LA120, TTY,
 Printek, ANSI X3.64

This item selects the emulation to be used whenever the parallel port is active (see “Automatic Port Switching” earlier in this section). The emulation should be set to match the type of printer your software supports.

Automatic Carriage Return

Auto CR
On

Possible Values: Off, On*

This item enables or disables automatic Carriage Returns (CR) whenever a Line Feed (LF), Vertical Tab (VT), or Form Feed (FF) is received.

Automatic Line Feed

Auto LF Off

Possible Values: Off*, On

This item enables or disables automatic Line Feeds (LF) when a Carriage Return (CR) is received.

Perform Host Form Feed at Top-of-Form

Host FF at TOF No

Possible Values: No*, Yes

This item selects whether Form Feeds (FF) will be performed when received from the host computer if the paper is already positioned at the top of form (TOF). Setting this item to No will help prevent blank pages.

Characters

Characters Control

Possible Values: Control*, Printable

This item selects whether certain control character symbols will be printed or be treated as control characters. The effect of this is dependent upon the emulation selected above.

Minimum Buffer

Minimum Buffer No

Possible Values: No*, Yes

This item selects whether the minimum I/O buffer size should be used. Setting this item to No will allow the printer to make maximum use of the I/O buffer (see “Paper Out Fault” on page 80 for more information on buffer size). Setting this to Yes may decrease performance, but is useful when using the printer with operating systems that try to keep track of which page is currently being printed by the printer.

Ethernet 10BaseT LAN Interface Items

INTERFACE MENU
LAN

Emulation

Emulation
Epson

Possible Values: Epson*, Basic Bar Codes, IBM
 Proprinter, DEC LA120, TTY,
 Printek, ANSI X3.64

This item selects the emulation to be used whenever the LAN port is active (see “Automatic Port Switching” earlier in this section). The emulation should be set to match the type of printer your software supports.

Automatic Carriage Return

Auto CR
On

Possible Values: Off, On*

This item enables or disables automatic Carriage Returns (CR) whenever a Line Feed (LF), Vertical Tab (VT), or Form Feed (FF) is received.

Automatic Line Feed

Auto LF Off

Possible Values: Off*, On

This item enables or disables automatic Line Feeds (LF) when a Carriage Return (CR) is received.

Perform Host Form Feed at Top-of-Form

Host FF at TOF No

Possible Values: No*, Yes

This item selects whether Form Feeds (FF) will be performed when received from the host computer if the paper is already positioned at the top of form (TOF). Setting this item to No will help prevent blank pages.

Characters

Characters Control

Possible Values: Control*, Printable

This item selects whether certain control character symbols will be printed or be treated as control characters. The effect of this is dependent upon the emulation selected above.

Minimum Buffer

Minimum Buffer No

Possible Values: No*, Yes

This item selects whether the minimum I/O buffer size should be used. Setting this item to No will allow the printer to make maximum use of the I/O buffer (see “Paper Out Fault” on page 80 for more information on buffer size). Setting this to Yes may decrease performance, but is useful when using the printer with operating systems that try to keep track of which page is currently being printed by the printer.

Coax/Twinax Interface Items

When Configured for Coax Operation

INTERFACE MENU Coax

When the optional Coax/Twinax Interface is installed, the printer will automatically determine which of these two interfaces are being used by sensing which adapter cable is attached to the printer at power on. If the Coax adapter is attached, the following Setup items will be displayed. If you are using the printer in a Twinax Configuration, refer to the next section of this chapter.

Printer Emulation

PrinterEmulation 3287
--

Possible Values: 3287*, 3262

This item selects the IBM printer model to be emulated.

Maximum Print Position

Max Print Pos 132

Possible Values: 132*, None

This item selects whether the maximum print position is column 132 or if no maximum position is enforced.

Maximum Print Line

Max Print Line 66

Possible Values: 66*, None

This item selects whether the maximum print line is line 66 or if no maximum position is enforced.

Form Feed After Local Copy

FF on Local Copy Enable

Possible Values: Enable*, Disable

This item selects whether a form feed will automatically be performed after a local copy operation.

Form Feed Validity (LU-3)

FF Valid (LU-3) Anywhere
--

Possible Values: Anywhere*, Col 1 or MPP+1

This item selects whether a Form Feed character will cause a form feed to occur when received anywhere in the data stream or only when received at column 1 or at MPP+1.

Form Feed At EOM (LU-3)

FF at EOM (LU-3) Disable
--

Possible Values: Enable, Disable*

This item selects whether a form feed will automatically be performed after an End Of Message is received.

Paper Error Reporting

Paper Err Report
Disable

Possible Values: Enable, Disable*

This item selects whether paper errors will be reported to the host.

Default Character Set

Character Set
Multinational

Possible Values: Multinational*

USA	France
Austria/Germany	Italy
Belgium	Japan (English)
Brazil	Japan (Katakana)
Canadian French	Portuguese
Denmark/Norway	Spain
Finland/Sweden	Spanish Speaking
	United Kingdom

This item selects the default character translation.

Logical Not Character

Logical Not Char
5E Hex

Possible Values: 5E Hex (caret ^), E1 Hex (not symbol ¬)

This item selects which character is actually printed when a logical not character is received (Shift-6 on most keyboards).

Null Suppression (LU-3)

NUL Supp (LU-3)
Disable (NUL=SP)